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Method and System for OFDM Symbol Timing Synchronization

Abstract

A method includes converting a received time domain digital signal to a corresponding frequency domain digital signal, calculating phase angles of tones of at least one symbol of the frequency domain digital signal when a symbol timing offset exists, and calculating at least one differential phase offset (DPO). A DPO is the difference between two consecutive gaps, a gap being the difference between the phase angle of a tone of the symbol of the frequency domain digital signal when the timing offset of the symbol exists and a correct phase angle of the tone of the symbol of the frequency domain digital signal. The method estimates the symbol timing offset with at least one DPO.